

It is Claimed:

1. A separation column comprising:

a separation channel extending between an inlet and an outlet and having a channel wall; and,

- 5 a separation medium in the channel, said channel having at least one photopolymer frit adapted to retain the separation medium in the channel, the at least one frit having a controlled porosity.

2. The separation column as in claim 1 wherein the photopolymer frit is bound to an inner surface of the channel wall.

3. The column as in claim 1 wherein the photopolymer frit is adjacent to the inlet, the outlet, or both.

4. The column as in claim 1 wherein the controlled porosity of the photopolymer frit is a mean pore size of between about 1.0 μm and 5.0 μm .

5. The column as in claim 1 wherein the separation channel is a fused-silica capillary having an internal dimension in the range of between about 5 and 300 μm , and the photopolymer frit is of a structure sufficient to withstand high pressure during packing of the separation medium in the channel.

6. The separation column as in claim 5 wherein the photopolymer frit is derived from a methacrylate monomer or a methacrylate-substituted silicate.

7. The separation column as in claim 6 wherein the photopolymer frit is derived from a methacrylate monomer polymerized via photoinitiation.

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8. The column as in claim 6 wherein the photopolymer frit is derived from a photocurable methacrylate-substituted silicate.

9. The column of claim 1, said column having a first portion that is filled with said separation medium and a second portion adjacent to said first portion that transmits radiation.

10. The column of claim 9 wherein said second portion does not contain said separation medium.

11. A separation column comprising:

a separation channel extending between an inlet and an outlet and having a channel wall; and,

5 a separation medium in the channel, said medium including a porous matrix and chromatographic particles dispersed in the matrix, said separation medium being formed of a photopolymer.

12. The separation column as in claim 1 wherein the channel wall has an exterior surface, and the exterior surface is substantially covered by a protective coating.

13. The column as in claim 12 where the protective coating includes polyimide.

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